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| 09/698,143 | 10/30/2000 | Satoshi Shinada | Q60866 | 6582 |

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| EXAMINER |
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NGHIEM, MICHAEL P

| ART UNIT | PAPER NUMBER |
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2863

DATE MAILED: 02/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/698,143

Applicant(s)

SHINADA ET AL.

Examiner

Michael P Nghiem

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2002 and 05 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18, 20-25, 34, 36 and 38-44 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-12, 14-16, 19, 26, 30-33, 35, 37, 45 and 46 is/are rejected.
- 7) ☒ Claim(s) 9, 13, 17 and 27-29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

The Communications filed on October 28, 2002 and December 5, 2002 have been acknowledged.

Withdrawal of Allowability

1. The indicated allowability of claims 7, 10, 15, 19, 26, and 30-33 are withdrawn in view of the newly discovered reference(s) to Takata (US 5,631,682), Shinada et al. (US 5,790,158), Miyazawa (US 5,633,667), and Matsuzaki et al. (US 6,416,152). Rejections based on the newly cited reference(s) follow.

Claim Objections

2. Claim 16 is objected to because of the following informalities: "... and said maintenance liquid is used during a maintenance operation of said ink cartridge" should be --... or said maintenance liquid is used during a maintenance operation of said ink cartridge --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2863

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Is the ink chamber (line 3) different from the internal space (line 5) of the container body?

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

as being anticipated by Takata (US 5,631,682)
rmw 3/18/03 Claims 1, 3-8, and 10-12 are rejected under 35 U.S.C. 102(b) ~~based upon a public use or sale of the invention.~~

rmw 2/18/03 Claim 16 is rejected under 35 U.S.C. 102(b) ~~as being anticipated by Takata (US 5,631,682).~~

Art Unit: 2863

Takata discloses all the claimed features of the invention including:

- an ink cartridge (Fig. 1) for use in an ink jet recording apparatus (Fig. 2) comprising:

- a container body (20) having an ink chamber (chamber of 20) and an opening portion (21) wherein an ink absorbing member (22) for absorbing ink is housed in said ink chamber (Fig. 1);

- an ink supply port (26) which communicates said ink chamber to a recording head (16);

- a lid member (24) sealing said opening portion of said container body (Fig. 1);

- a spacer (32), which is disposed between said lid member and said ink absorbing member and is separate from said lid member (Fig. 1), wherein said spacer has a base portion which faces said lid member (Fig. 1), and a pressing portion (bottom of 32) for pressing said ink absorbing member toward said ink supply port (Fig. 1);

- a plurality of through holes are provided so as to oppose an injecting port independent of an extension direction of said spacer and so as to be symmetric with respect to each other (Fig. 3);

- said spacer presses said ink absorbing member toward said ink supply port at least at an area where said ink absorbing member opposes said ink supply port (Fig. 1);

- said pressing portion comprises a rib (33) extending to a longitudinal direction of said container body at an opposite side to said ink absorbing member (Figs. 1, 3);

- a projection (33) engaging with said lid member is formed in said base portion (Figs. 1, 3);

- said pressing portion comprises plural ribs (33's) extending to a longitudinal

Art Unit: 2863

direction of said container body, and each of said plural ribs is joined to each other (Fig. 3);

- said pressing portion comprises ribs which are positioned at both sides of said container body in a width direction (Fig. 3);

- projections are formed at corners of said base portion in a longitudinal direction so as to contact with an inside of said ink container body (33's are formed at corners of base of 32, Fig. 3);

- said spacer comprises ribs extending to a longitudinal direction of said container body at the opposite side to said ink absorbing member, and said ribs are provided with a convex portion (concave ends of 33's) at an area of said ink absorbing member which opposes said ink supply port (Fig. 3).

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Ishinaga et al. (US 6,336,719).

Ishinaga et al. discloses all the claimed features of the invention including:

- an ink cartridge (100) for use in an ink jet recording apparatus (Fig. 2) comprising:
 - a container body (body of 100) having an ink absorbing member (102) for absorbing ink in an ink chamber (101);
 - an ink supply port (100a) which communicates said ink chamber to a recording head (column 13, line 10);
 - an internal space of said container body is divided into a plurality of areas by walls (Fig. 2), and only one (101) of said areas stores ink and is provided with said ink supply port (Fig. 2).

Claims 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Shinada et al. (US 5,790,158).

Shinada et al. discloses all the claimed features of the invention including:

- an ink cartridge (Figs. 15's) for use in an ink jet recording apparatus (Fig. 1), comprising:
 - a container body (501) having an ink absorbing member (520) for absorbing ink in an ink chamber (511);
 - ink supply ports (513, 513', 513'') which communicate said ink chamber to a recording head (4);

- an internal space of said container body is divided into a first divided chamber (511) and a second divided chamber (512) by an area wall (510) parallel to an ink supply ports arrangement direction (Figs. 15's), wherein said first divided chamber is further divided into areas by chamber walls (502, 503) perpendicular to said area wall (Figs. 15's), and each of said areas is provided with one of said ink supply ports (513, 513', 513"), wherein said second divided chamber contains one of reserve ink (ink), and wherein said reserve ink replenishes ink in at least one of said areas (ink is supplied to 513, 513', 513" from chambers);

- said internal space of said container body is divided by first walls (502) perpendicular to an ink supply needles (550's) arrangement direction (Figs. 15's, 16).

Claims 19, 26, 30-33, 35, 37, 45, and 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsuzaki et al. (US 6,416,152).

Matsuzaki et al. discloses all the claimed features of the invention including:

- an ink cartridge (20, Figs. 7's) for use in an ink jet recording apparatus (Fig. 1)

comprising:

- a container body (23) having an ink absorbing member (24) for absorbing ink in an ink chamber (Fig. 2);

- an ink supply port (21) which communicates said ink chamber to a recording head (8);

- the internal space of said container body divided into a plurality of areas by walls (column 6, line 63 –column 7, line 2);
- at least one of said areas storing ink is provided with said supply port (Fig. 2), and a storage device (30) storing information regarding an ink stored amount is attached so as to be readable by a recording apparatus (Figs. 7's, 8);
- said container body installed in a holder (6) of the ink jet recording apparatus;
- a concave portion (concave portion, Fig. 8) formed on a side wall (left wall of cartridge, Fig. 8) of said container body to protrude into said ink chamber (Fig. 8);
- the side wall in contact with the holder (in secured position of cartridge, bottom portion of left side wall will contact holder 6, Fig. 8);
- a lid member (22) sealing an opening portion of said container body;
- said ink absorbing member is strongly compressed at a central area of a bottom portion of said ink chamber (via projection of ink supply port, Fig. 8);
- said ink supply port communicates with a concave portion (concave portion communicating with 21, Fig. 8) formed at a projection (projection of ink supply port, Fig. 8) extending from a substantially central portion of the bottom wall (Fig. 8);
- a spacer (projections from top wall, Fig. 8) inserted between said lid member and said ink absorbing member for pressing said ink absorbing member toward said ink supply port (Fig. 8).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takata in view of Miyazawa (US 5,633,667).

Figs. 1-5 of Takata discloses all the claimed features of the invention as discussed above.

Figs. 1-5 of Takata further discloses that an air communicating port (39) is formed in said lid member (Fig. 1), and through holes (openings of 32 including 71, Fig. 3) are formed in said spacer so as to be opposed at least to said ink injecting port (Fig. 1).

However, Figs. 1-5 of Takata does not disclose an ink injecting port.

Nevertheless, Fig. 6 of Takata discloses an ink injecting port (ink filling port, Fig. 6) for the purpose of filling the ink cartridge with ink. The port shown in Fig. 6 of Takata is interpreted as an ink filling port in view of ink filling port (3) of Miyazawa (Fig. 2).

Art Unit: 2863

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Figs. 1-5 of Takata with an ink injecting port as disclosed by Fig. 6 of Takata for the purpose of filling ink.

Allowable Subject Matter

7. Claims 9, 13, 17, and 27-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 18, 20-25, 34, 36, and 38-44 are allowed.

Reasons For Allowance

9. The combination or method as claimed wherein a convex portion is formed at said ink supply port, said convex portion protrudes from a bottom of said container body and has an ink flow path communicating with said ink supply port (claim 9) or each of said plurality of ink chambers is provided with said ink absorbing member and said spacer (claim 13) or said container body is installed in an air tight and gas impermeable package so as to maintain a pressure lower than atmospheric pressure (claim 17) or a first rib height of said first ribs is different than a second rib height of said second ribs, and wherein a first member volume of said first ink absorbing member is

Art Unit: 2863

different than a second member volume of said second ink absorbing member (claims 18, 42) or at least one rib formed at said concave portion so as to be parallel to the third side wall and to protrude to said ink supply port (claim 20) or a bottom portion of the side wall in said container body protrudes to the ink chamber (claim 27) or said container body has a second side wall which is shorter than said first side wall (claim 28) or said protruded portion includes a sloping portion (claim 29) is not disclosed, suggested, or made obvious by the prior art of record.

Response to Arguments

10. Applicant's arguments filed on October 28, 2002 and December 5, 2002 have been considered but are moot in view of the new ground(s) of rejection.

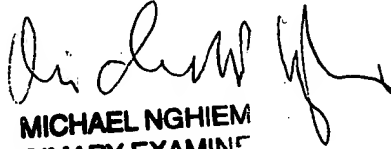
Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Nghiem whose telephone number is (703) 306-3445. The examiner can normally be reached on M-H from 6:30AM – 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached at (703) 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-5841 for After Final communications.

Art Unit: 2863

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



MICHAEL NGHIEM
PRIMARY EXAMINER

Michael Nghiem

February 14, 2003